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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Cao Thanh PHAN, et al.

Docket No: Q62440

Appln. No.: 09/749,675

Group Art Unit: 2665

Confirmation No.: 8686

Examiner: Clemence S. HAN

Filed: December 28, 2000

For: A MANAGEMENT METHOD FOR MAINTAINING COMMUNICATIONS OPTIONS WITHIN A PRIVATE COMMUNICATIONS NETWORK

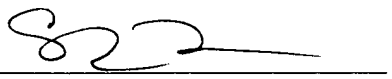
SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of $500.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,



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23373
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Date: August 9, 2005

Attorney Docket No.: Q62440

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS
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Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Alcatel. Assignment of the application was submitted in U.S. Patent and Trademark Office on December 28, 2000, and recorded on the same date at Reel 011426, Frame 0426.

II. RELATED APPEALS AND INTERFERENCES

There are no known appeals or interferences that will affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-8 are all of the claims pending in the application. Pending claims 1-8 are rejected, and are the subject of this appeal. All of the claims are set forth in the attached Appendix.

IV. STATUS OF AMENDMENTS

No amendments were requested subsequent to the Final Office Action of February 9, 2005.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The claimed invention is directed to "[a] method of maintaining communications options within a private communications network comprising a plurality of private exchange nodes, each of the nodes being capable of communicating with all other nodes in normal operation via two-way communications trunks interconnecting some of the nodes in pairs."

Independent claim 1 recites:

> detecting faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network;
>
> implementing emergency means which provide at least one dynamic access for ensuring that all of the nodes of the network can again communicate with all of the other nodes, thereby maintaining a set of services proposed by the network in normal operation; and
>
> transmitting calls through the network using routing that is static and predetermined once the emergency means have been implemented.

With reference to the figure, the present invention is directed to the case where a private communications network R0, which includes nodes 1-9 interconnected by trunks Ai,j, is split into a first network portion R1 and a second network portion R2 due to faulty operation of a trunk $A_{1,4}$. The two network portions R1 and R2 are disjoint in that none of the nodes of the first network portion R1 can communicate directly, i.e., over a trunk available in the network in normal operation, with any of the nodes in the second network portion R2. (page 7, lines 10-25). When the network split is detected and data is to be transmitted between one of the nodes in the first network portion R1 and one of the nodes in the second network portion R2, a dynamic

access $AD_{3,4}$ is set up. (page 7, line 26 - page 8, line 1). This dynamic access serves to carry digital signaling signals between the two portions Rl and R2 of the network R0. The signaling channels can be transmitted using various different media including modems for converting digital and/or analog signals can have been installed beforehand in nodes 3 and 4, links of the Ethernet type, a B channel in an access to a communications circuit, basic accesses, or indeed primary accesses which might be available in a public communications network. Under all circumstances, the signaling signals are no longer transmitted solely within the private network. (page 8, lines 1-12).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansour et al. (U.S. Patent No. 5,058,105; hereafter "Mansour") in view of Hamami (U.S. Patent No. 5,959,972).

B. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Hamami and Nakata (U.S. Patent No. 6,452,934).

C. Claims 6-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Hamami and Ko et al. (U.S. Patent No. 5,479,407; hereafter "Ko").

VII. ARGUMENT

A. Rejection of claims 1-4 under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Hamami

It is respectfully submitted that claims 1-4 would not have been rendered obvious in view of Mansour and Hamami. In particular, Appellant respectfully submits that the cited references, alone or in combination, do not teach or suggest detecting faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network, as required by claim 1.

As conceded by the Examiner, Mansour fails to disclose "detecting faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network". Instead, Mansour discloses a network alternate routing arrangement wherein traffic is restored to service by establishing a number of orders of connectivity each formed from spare link capacity, in which each succeeding order of connectivity represents the shortest loop around a preceding order of connectivity. (Abstract). The teachings of Mansour are limited to the case where a node or link becomes inoperable and traffic is rerouted via other pre-existing spare nodes/links of network. For example, as shown in Figure 1, when the link 103 connecting nodes 100-2 and 100-3 fails, traffic between service-end nodes 100-1 and 100-5, which are assumed to be the respective source and destination of the traffic carried by failed link 103, is re-routed between nodes 100-1 and 100-4 via links 102, 104, 106 and 107 and node 100-6. (column 4, lines 24-48).

Thus, Mansour's network never becomes split when a node or link fails since the nodes (100-1 through 100-13) can always communicate with each other through other pre-existing nodes or links of network.

In view of the deficiencies of Mansour, the Examiner cites Figure 2 and column 2, lines 58-59 of Hamami for allegedly disclosing "detecting faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network". Further, the Examiner asserts that "[i]t would have been obvious ... to modify Mansour to detect faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network as taught by Hamami in order to avoid data loss." (February 9, 2005 Office Action at pages 2 and 3). However, Appellant respectfully disagrees with the Examiner's assertions regarding the teachings of Hamami.

Hamami discloses a method for implementing redundancy of both links and ports between two ATM switches. (Abstract). As shown in Figures 1 and 2, a first ATM switch 22 and a second ATM switch 20 are provided with a redundant link connection which includes two separate parallel communication links, a main link 60 and a backup link 62, connected between separate ports on each of the switches 20 and 22. (column 4, lines 23-33). Under normal operating conditions, traffic is sent between the first switch 22 and the second switch 20 via the main link 60, and the backup link 62 remains in a standby mode, i.e., idle ready for use in the event the main link 60 fails. When a failure occurs on the main link 60 or either of the two ports

on either side of the main link, the traffic originally traveling over the main link 60 is switched to the backup link 62. When a failure of the main link 60 is detected, either one or both of the backup link ports detects the failure. The data traffic is then switched from the main link 60 to the backup link 62. (column 4, lines 39-49).

Accordingly, Hamami simply discloses providing a redundancy scheme in which the ATM switches are always connected via at least one of two identical links. In other words, if a main link fails in Hamami's network, data traffic is switched to the previously established backup link. Thus, the Hamami's network is never split into two network portions which can no longer communicate with each other via any of the trunks of the network, as required by independent claim 1.

In the Advisory Action dated May 25, 2005, the Examiner responds to Appellant's arguments by asserting:

> when there is a failure in the main link 60 [of Hamami], the network is split into two network portions (one group comprising 22 and the other group comprising 16, 18 and 20, see Figure 1 and 2). Also notice the switches 120 and 122 are initially in open position when the failure in the main link 60 occurs.

However, contrary to the Examiner's position, Hamami expressly teaches that the ATM switches 22 and 20 always connected by at least one of two separate parallel communication links, a main link 60 and a backup link 62, provided between separate ports on each of the switches 20 and 22. Although the switches 120 and 122 are shown in an open state in Fig. 2, ports 36 and 44 of the ATM switches 20 and 22 are always connected via a standby virtual circuit setup over the backup link 62. In other words, the fact that the switches 120 and 122 are

shown in an open state in Fig. 2 simply indicates that data traffic between the ATM switches 20 and 22 is normally directed over the main link 60 until a failure occurs. Thus, the Hamami's network is never split into two network portions which can no longer communicate with each other via any of the trunks of the network, as required by independent claim 1.

Accordingly, Appellant respectfully submits that independent claim 1, as well as dependent claims 2-4, should be allowable because the cited references do not teach or suggest all of the features of the claims, and one of ordinary skill in the art would not have been motivated combine and modify the cited references to produce the claimed invention.

B. Rejection of claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Hamami and Nakata.

Appellant respectfully submits that Nakata does make up for the above noted deficiencies of Mansour and Hamami. Accordingly, Appellant respectfully submits claim 5 should be allowable over the cited references at least by virtue of its dependency on claim 1.

C. Rejection of claims 6-8 under 35 U.S.C. § 103(a) as being unpatentable over Mansour in view of Hamami and Ko

Appellant respectfully submits that Ko does make up for the above noted deficiencies of Mansour, Hamami and Nakata. Accordingly, Appellant respectfully submits claims 6-8 should be allowable over the cited references at least by virtue of their dependency on claim 1.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CLAIMS APPENDIX

CLAIMS 1-8 ON APPEAL:

1. (Previously Presented) A method of maintaining communications options within a private communications network comprising a plurality of private exchange nodes, each of the nodes being capable of communicating with all other nodes in normal operation via two-way communications trunks interconnecting some of the nodes in pairs, the method comprising:

detecting faulty operation that leads to the network becoming split into at least two network portions which can no longer communicate with each other via any of the trunks of the private communications network;

implementing emergency means which provide at least one dynamic access for ensuring that all of the nodes of the network can again communicate with all of the other nodes, thereby maintaining a set of services proposed by the network in normal operation; and

transmitting calls through the network using routing that is static and predetermined once the emergency means have been implemented.

2. (Previously Presented) A method of maintaining communications options within a private communications network according to claim 1, further comprising defining a set of network nodes from which the dynamic accesses are available prior to any faulty operation giving rise to the network being split.

3. (Previously Presented) A method of maintaining communications options within a private communications network according to claim 1, wherein the dynamic access is

implemented only to satisfy a call request between two nodes that can no longer be connected together once the network has split.

4. (Original) A method of maintaining communications options within a private communications network according to claim 1, wherein the static routing defines a single access path between a sending node and a destination node, the single access path being stored in the sending node and in the destination node.

5. (Previously Presented) A method of maintaining communications options within a private communications network according to claim 1, further comprising releasing the dynamic accesses as soon as the faulty operation that caused the network to split has ceased and the last call supported by the dynamic accesses has finished.

6. (Previously Presented) A method of maintaining communications options within a private communications network according to claim 2, wherein the emergency means comprise modems disposed at the nodes defined prior to any faulty operation and from which dynamic access is available.

7. (Previously Presented) A method of maintaining communications options within a private communications network according to claim 1, wherein the emergency means utilizes Ethernet links.

8. (Previously Presented) A method of maintaining communications options within a private communications network according to claim 1, wherein the emergency means utilizes a B channel on an access of a communications circuit.

EVIDENCE APPENDIX:

There has been no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other similar evidence..

RELATED PROCEEDINGS APPENDIX

There are no related proceedings.